

SEQUENCE LISTING

<110> The Trustees of the University of Pennsylvania
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Wilson, James M.

<120> Methods of Generating Chimeric Adenoviruses and Uses For Such
Chimeric Adenoviruses

<130> UPN-P3067PCT

<150> US 10/465,302
<151> 2003-06-20

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<151> 2004-05-28

<160> 18

<170> PatentIn version 3.2

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Cys	Gly	Val	Asp	Phe	Thr	Gln	Ser	Arg	Leu	Ser	Asn	Leu	Leu	Gly	Ile	
			245					250				255				
cgc	aag	cgg	atg	ccc	ttc	cag	gcg	ggt	ttt	cag	atc	atg	tac	gag	gac	14614
Arg	Lys	Arg	Met	Pro	Phe	Gln	Ala	Gly	Phe	Gln	Ile	Met	Tyr	Glu	Asp	
		260					265					270				
ctg	gag	ggc	ggc	aac	atc	ccc	gcc	ttg	cta	gac	gtg	gcg	aaa	tac	gag	14662
Leu	Glu	Gly	Gly	Asn	Ile	Pro	Ala	Leu	Leu	Asp	Val	Ala	Lys	Tyr	Glu	
	275					280					285					
gcc	agc	att	cag	aag	gcg	cgg	gag	cag	ggc	cag	gag	atc	cgc	ggc	gac	14710
Ala	Ser	Ile	Gln	Lys	Ala	Arg	Glu	Gln	Gly	Gln	Glu	Ile	Arg	Gly	Asp	
290					295				300					305		
aac	ttt	acc	gtc	atc	ccc	cgg	gac	gtg	gag	atc	gtg	ccc	gtg	gag	aag	14758
Asn	Phe	Thr	Val	Ile	Pro	Arg	Asp	Val	Glu	Ile	Val	Pro	Val	Glu	Lys	

310	315	320	
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acg gcc tac cgc agc tgg ttc ctg gcc tac aac tac ggc gac ccc gag Thr Ala Tyr Arg Ser Trp Phe Leu Ala Tyr Asn Tyr Gly Asp Pro Glu 340 345 350			14854
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ggc tcg cag cag gtg tac tgg tgc ctc ccg gac atg atg caa gac ccc Gly Ser Gln Gln Val Tyr Trp Ser Leu Pro Asp Met Met Gln Asp Pro 370 375 380 385			14950
gtg acc ttc cgg ccc tcc agc caa gtc agc aac tac ccc gtg gtg gga Val Thr Phe Arg Pro Ser Ser Gln Val Ser Asn Tyr Pro Val Val Gly 390 395 400			14998
gtc gag ctc ctg ccg gtg cac gcc aag agc ttt tac aac gag cag gcc Val Glu Leu Leu Pro Val His Ala Lys Ser Phe Tyr Asn Glu Gln Ala 405 410 415			15046
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Met Ala Thr Pro
510

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Ser Met Met Pro Gln Trp Ser Tyr Met His Ile Ala Gly Gln Asp Ala
515 520 525

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Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala Arg Ala Thr Asp
530 535 540

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Thr Tyr Phe Ser Leu Gly Asn Lys Phe Arg Asn Pro Thr Val Ala Pro
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Thr His Asp Val Thr Thr Asp Arg Ser Gln Arg Leu Thr Leu Arg Phe
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Phe Asp Ile Arg Gly Val Leu Asp Arg Gly Pro Ser Phe Lys Pro Tyr
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Ser Gly Thr Ala Tyr Asn Ser Leu Ala Pro Lys Gly Ala Pro Asn Pro
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645 650 655

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Pro Phe Phe Ser Thr Ser Ile Thr Lys Asp Gly Ile Gln Val Ala Thr
660 665 670

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Asp Thr Ser Ser Gly Ala Val Tyr Ala Lys Lys Glu Tyr Gln Pro Glu
675 680 685

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Pro Gln Val Gly Gln Glu Gln Trp Asn Ser Glu Ala Ser Asp Ser Asp
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Lys Val Ala Gly Arg Ile Leu Lys Asp Thr Thr Pro Met Phe Pro Cys
705 710 715 720

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Tyr Gly Ser Tyr Ala Lys Pro Thr Asn Glu Gln Gly Gly Gln Gly Thr
725 730 735

aat act gta gat ctg cag ttc ttt gcc tct tca tcg gct acc tct acg 18988

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Pro	Lys	Ala 755	Val	Leu	Tyr	Ala	Glu 760	Asp	Val	Ala	Ile	Glu 765	Ala	Pro	Asp		
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Thr	His 770	Leu	Val	Tyr	Lys	Pro 775	Ala	Val	Thr	Thr	Thr	Thr	Thr	Ser	Ser		
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Gln	Asp	Leu	Leu	Thr	Gln 790	Gln	Ala	Ala	Pro	Asn 795	Arg	Pro	Asn	Tyr	Ile 800		
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Thr	Pro	Asp	Asn	Ile 965	Thr	Leu	Pro	Asp	Asn 970	Lys	Asn	Thr	Tyr	Asp 975	Tyr		
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Ile	Gly	Ala 995	Arg	Trp	Ser	Pro	Asp 1000	Pro	Met	Asp	Asn	Val 1005	Asn	Pro	Phe		
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Met Pro Asn Ile Asn Glu Phe Met Ser Thr Asn Lys Phe Arg Ala Arg

130

135

140

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Glu Lys Gly Val Arg Ser Trp Thr Leu Leu Thr Thr Thr Asp Val Thr
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Cys Gly Ser Gln Gln Val Tyr Trp Ser Leu Pro Asp Met Met Gln Asp
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Ala Val Tyr Ser Gln Leu Ile Arg Gln Ser Thr Ala Leu Thr His Val
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Thr Leu Arg Phe Val Pro Val Asp Arg Glu Asp Thr Ala Tyr Ser Tyr
 65 70 75 80

Lys Val Arg Phe Thr Leu Ala Val Gly Asp Asn Arg Val Leu Asp Met
 85 90 95

Ala Ser Thr Tyr Phe Asp Ile Arg Gly Val Leu Asp Arg Gly Pro Ser
 100 105 110

Phe Lys Pro Tyr Ser Gly Thr Ala Tyr Asn Ser Leu Ala Pro Lys Gly
 115 120 125

Ala Pro Asn Pro Ser Glu Trp Lys Gly Ser Asp Asn Lys Ile Ser Val
 130 135 140

Arg Gly Gln Ala Pro Phe Phe Ser Thr Ser Ile Thr Lys Asp Gly Ile
 145 150 155 160
 Gln Val Ala Thr Asp Thr Ser Ser Gly Ala Val Tyr Ala Lys Lys Glu
 165 170 175
 Tyr Gln Pro Glu Pro Gln Val Gly Gln Glu Gln Trp Asn Ser Glu Ala
 180 185 190
 Ser Asp Ser Asp Lys Val Ala Gly Arg Ile Leu Lys Asp Thr Thr Pro
 195 200 205
 Met Phe Pro Cys Tyr Gly Ser Tyr Ala Lys Pro Thr Asn Glu Gln Gly
 210 215 220
 Gly Gln Gly Thr Asn Thr Val Asp Leu Gln Phe Phe Ala Ser Ser Ser
 225 230 235 240
 Ala Thr Ser Thr Pro Lys Ala Val Leu Tyr Ala Glu Asp Val Ala Ile
 245 250 255
 Glu Ala Pro Asp Thr His Leu Val Tyr Lys Pro Ala Val Thr Thr Thr
 260 265 270
 Thr Thr Ser Ser Gln Asp Leu Leu Thr Gln Gln Ala Ala Pro Asn Arg
 275 280 285
 Pro Asn Tyr Ile Gly Phe Arg Asp Asn Phe Ile Gly Leu Met Tyr Tyr
 290 295 300
 Asn Ser Thr Gly Asn Met Gly Val Leu Ala Gly Gln Ala Ser Gln Leu
 305 310 315 320
 Asn Ala Val Val Asp Leu Gln Asp Arg Asn Thr Glu Leu Ser Tyr Gln
 325 330 335
 Leu Met Leu Asp Ala Leu Gly Asp Arg Ser Arg Tyr Phe Ser Met Trp
 340 345 350
 Asn Gln Ala Val Asp Ser Tyr Asp Pro Asp Val Arg Ile Ile Glu Asn
 355 360 365
 His Gly Val Glu Asp Glu Leu Pro Asn Tyr Cys Phe Pro Leu Gly Gly
 370 375 380
 Ser Leu Val Thr Glu Thr Tyr Thr Gly Leu Ser Pro Gln Asn Gly Ser
 385 390 395 400
 Asn Thr Trp Thr Thr Asp Ser Thr Thr Tyr Ala Thr Arg Gly Val Glu
 405 410 415
 Ile Gly Ser Gly Asn Met Phe Ala Met Glu Ile Asn Leu Ala Ala Asn
 Page 127

420 425 430
 Leu Trp Arg Ser Phe Leu Tyr Ser Asn Val Ala Leu Tyr Leu Pro Asp
 435 440 445
 Glu Tyr Lys Leu Thr Pro Asp Asn Ile Thr Leu Pro Asp Asn Lys Asn
 450 455 460
 Thr Tyr Asp Tyr Met Asn Gly Arg Val Ala Ala Pro Ser Ser Leu Asp
 465 470 475 480
 Thr Tyr Val Asn Ile Gly Ala Arg Trp Ser Pro Asp Pro Met Asp Asn
 485 490 495
 Val Asn Pro Phe Asn His His Arg Asn Ala Gly Leu Arg Tyr Arg Ser
 500 505 510
 Met Leu Leu Gly Asn Gly Arg Tyr Val Pro Phe His Ile Gln Val Pro
 515 520 525
 Gln Lys Phe Phe Ala Ile Lys Asn Leu Leu Leu Leu Pro Gly Ser Tyr
 530 535 540
 Thr Tyr Glu Trp Asn Phe Arg Lys Asp Val Asn Met Ile Leu Gln Ser
 545 550 555 560
 Ser Leu Gly Asn Asp Leu Arg Val Asp Gly Ala Ser Val Arg Phe Asp
 565 570 575
 Ser Ile Asn Leu Tyr Ala Asn Phe Phe Pro Met Ala His Asn Thr Ala
 580 585 590
 Ser Thr Leu Glu Ala Met Leu Arg Asn Asp Thr Asn Asp Gln Ser Phe
 595 600 605
 Asn Asp Tyr Leu Cys Ala Ala Asn Met Leu Tyr Pro Ile Pro Ala Asn
 610 615 620
 Ala Thr Ser Val Pro Ile Ser Ile Pro Ser Arg Asn Trp Ala Ala Phe
 625 630 635 640
 Arg Gly Trp Ser Phe Thr Arg Leu Lys Thr Lys Glu Thr Pro Ser Leu
 645 650 655
 Gly Ser Gly Phe Asp Pro Tyr Phe Thr Tyr Ser Gly Ser Ile Pro Tyr
 660 665 670
 Leu Asp Gly Thr Phe Tyr Leu Asn His Thr Phe Lys Lys Val Ser Ile
 675 680 685
 Met Phe Asp Ser Ser Val Ser Trp Pro Gly Asn Asp Arg Leu Leu Thr
 690 695 700

Pro Asn Glu Phe Glu Ile Lys Arg Thr Val Asp Gly Glu Gly Tyr Asn
705 710 715 720

Val Ala Gln Cys Asn Met Thr Lys Asp Trp Phe Leu Ile Gln Met Leu
725 730 735

Ser His Tyr Asn Ile Gly Tyr Gln Gly Phe Tyr Val Pro Glu Gly Tyr
740 745 750

Lys Asp Arg Met Tyr Ser Phe Phe Arg Asn Phe Gln Pro Met Ser Arg
755 760 765

Gln Val Val Asp Thr Thr Thr Tyr Thr Asp Tyr Lys Asn Val Thr Leu
770 775 780

Pro Phe Gln His Asn Asn Ser Gly Phe Val Gly Tyr Met Gly Pro Thr
785 790 795 800

Met Arg Glu Gly Gln Ala Tyr Pro Ala Asn Tyr Pro Tyr Pro Leu Ile
805 810 815

Gly Lys Thr Ala Val Pro Ser Leu Thr Gln Lys Lys Phe Leu Cys Asp
820 825 830

Arg Thr Met Trp Arg Ile Pro Phe Ser Ser Asn Phe Met Ser Met Gly
835 840 845

Ala Leu Thr Asp Leu Gly Gln Asn Met Leu Tyr Ala Asn Ser Ala His
850 855 860

Ala Leu Asp Met Thr Phe Glu Val Asp Pro Met Asp Glu Pro Thr Leu
865 870 875 880

Leu Tyr Val Leu Phe Glu Val Phe Asp Val Val Arg Ile His Gln Pro
885 890 895

His Arg Gly Val Ile Glu Ala Val Tyr Leu Arg Thr Pro Phe Ser Ala
900 905 910

Gly Asn Ala Thr Thr
915

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<211> 607
<212> PRT
<213> Simian adenovirus

<400> 15

Met Lys Arg Ala Arg Leu Asp Asp Asp Phe Asn Pro Val Tyr Pro Tyr
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Asp Thr Pro Asn Ala Pro Ser Val Pro Phe Ile Thr Pro Pro Phe Val
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 Ser Ser Asp Gly Leu Gln Glu Lys Pro Pro Gly Met Leu Ser Leu Asn
 35 40 45
 Tyr Gln Asp Pro Ile Thr Thr Gln Asn Gly Ala Leu Thr Leu Lys Leu
 50 55 60
 Gly Ser Gly Leu Asn Ile Asn Gln Asp Gly Glu Leu Thr Ser Asp Ala
 65 70 75 80
 Ser Val Leu Val Thr Pro Pro Ile Thr Lys Ala Asn Asn Thr Ile Gly
 85 90 95
 Leu Ala Phe Asn Ala Pro Leu Thr Leu Gln Ser Asp Thr Leu Asn Leu
 100 105 110
 Ala Cys Asn Ala Pro Leu Thr Val Gln Asp Asn Arg Leu Gly Ile Thr
 115 120 125
 Tyr Asn Ser Pro Leu Thr Leu Gln Asn Ser Glu Leu Ala Leu Ala Val
 130 135 140
 Thr Pro Pro Leu Asp Thr Ala Asn Asn Thr Leu Ala Leu Lys Thr Ala
 145 150 155 160
 Arg Pro Ile Ile Thr Asn Ser Asn Asn Glu Leu Thr Leu Ser Ala Asp
 165 170 175
 Ala Pro Leu Asn Thr Ser Thr Gly Thr Leu Arg Leu Gln Ser Ala Ala
 180 185 190
 Pro Leu Gly Leu Val Asp Gln Thr Leu Arg Val Leu Phe Ser Asn Pro
 195 200 205
 Leu Tyr Leu Gln Asn Asn Phe Leu Ser Leu Ala Ile Glu Arg Pro Leu
 210 215 220
 Ala Leu Thr Thr Thr Gly Ser Met Ala Met Gln Ile Ser Gln Pro Leu
 225 230 235 240
 Lys Val Glu Asp Gly Ser Leu Ser Leu Ser Ile Glu Ser Pro Leu Asn
 245 250 255
 Leu Lys Asn Gly Asn Leu Thr Leu Gly Thr Gln Ser Pro Leu Thr Val
 260 265 270
 Thr Gly Asn Asn Leu Ser Leu Thr Thr Thr Ala Pro Leu Thr Val Gln
 275 280 285
 Asn Asn Ala Leu Ala Leu Ser Val Leu Leu Pro Leu Arg Leu Phe Asn

290

295

300

Asn Thr Ser Leu Gly Val Ala Phe Asn Pro Pro Ile Ser Ser Ala Asn
 305 310 315 320

Asn Gly Leu Ser Leu Asp Ile Gly Asn Gly Leu Thr Leu Gln Tyr Asn
 325 330 335

Arg Leu Val Val Asn Ile Gly Gly Gly Leu Gln Phe Asn Asn Gly Ala
 340 345 350

Ile Thr Ala Ser Ile Asn Ala Ala Leu Pro Leu Gln Tyr Ser Asn Asn
 355 360 365

Gln Leu Ser Leu Asn Ile Gly Gly Gly Leu Arg Tyr Asn Gly Thr Tyr
 370 375 380

Lys Asn Leu Ala Val Lys Thr Asp Ser Phe Arg Gly Leu Glu Ile Asp
 385 390 395 400

Ser Asn Gln Phe Leu Val Pro Arg Leu Gly Ser Gly Leu Lys Phe Asp
 405 410 415

Gln Tyr Gly Tyr Ile Ser Val Ile Pro Pro Thr Val Thr Pro Thr Thr
 420 425 430

Leu Trp Thr Thr Ala Asp Pro Ser Pro Asn Ala Thr Phe Tyr Asp Ser
 435 440 445

Leu Asp Ala Lys Val Trp Leu Ala Leu Val Lys Cys Asn Gly Met Val
 450 455 460

Asn Gly Thr Ile Ala Ile Lys Ala Leu Lys Gly Thr Leu Leu Gln Pro
 465 470 475 480

Thr Ala Ser Phe Ile Ser Phe Val Met Tyr Phe Tyr Ser Asn Gly Thr
 485 490 495

Arg Arg Thr Asn Tyr Pro Thr Phe Glu Asn Glu Gly Ile Leu Ala Ser
 500 505 510

Ser Ala Thr Trp Gly Tyr Arg Gln Gly Asn Ser Ala Asn Thr Asn Val
 515 520 525

Thr Ser Ala Val Glu Phe Met Pro Ser Ser Thr Arg Tyr Pro Val Asn
 530 535 540

Lys Gly Thr Glu Val Gln Asn Met Glu Leu Thr Tyr Thr Phe Leu Gln
 545 550 555 560

Gly Asp Pro Thr Met Ala Ile Ser Phe Gln Ala Ile Tyr Asn His Ala
 565 570 575

Leu Glu Gly Tyr Ser Leu Lys Phe Thr Trp Arg Val Arg Asn Arg Glu
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Arg Phe Asp Ile Pro Cys Cys Ser Phe Ser Tyr Ile Thr Glu Glu
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<211> 24
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<220>
<223> synthetic oligomer

<400> 16
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24

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Arg Arg Ala Ser
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<220>
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<400> 18
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24

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